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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/996,603	11/30/2001	John M. Belcea	42565	4108

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EXAMINER	
NGO, NGUYEN HOANG	
ART UNIT	**PAPER NUMBER**
2663	

DATE MAILED: 03/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/996,603	BELCEA, JOHN M.	
	Examiner	Art Unit	
	Nguyen Ngo	2663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 December 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8 and 10-17* is/are rejected.

7)☒ Claim(s) *9 and 18* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

This communication is in response to the amendment of December 30, 2005. All changes made to the Claims have been entered. Accordingly, Claims 1-18 are currently pending in the application.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-5 and 10-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Mincher et al. (US 5408506), hereinafter referred to as Mincher.

Regarding claim 1, 5, 10, and 14 Mincher discloses a distributed time synchronization system and method which synchronizes nodes within a frequency hopping spread spectrum local area network group, and further discloses the system automatically achieves synchronization of each node's clock using a unique message format that includes clock information (determining a relationship between the timing of a local clock of a node (col4 line 31) with respect to the timing of a local clock of at least one other node (col4 line31) in a wireless communication network (col4 lines 15-31). Mincher further discloses;

a transmitter (46 of figure 2) that incorporates the value of the local clock into the header of a message, and directs the transmitter to send the message (value of the clock before transmission correlating to request transmission time, col7 lines 2-5) and that the message is a request message (transmitting a clock information request message from said node to said other node, col8 lines 53-55).

a receiver (at other node, 46 of figure 2) which receives the request messages sent by other nodes and stores the receiving node's current local clock value (receiving current clock value corresponding to request reception time, col7 lines 9-10) will then transmits a response message incorporating the time at which the message was transmitted (response message from said other node, col10 lines 27-28 and col8 lines 60-63) and that every message transmitted includes time synchronization information (timing information pertaining to a request reception time (local clock value when request message is received) and response transmission time (local clock value when response message is transmitted), col10 lines 4-6).

a clock processor which calculates the time difference the receiving node's local clock value and the transmitting node's local clock value (a processor, adapted to calculate a difference between the timing of said local clock of said node and said local clock of said other node, col11 lines 20-23) and further discloses the difference is based on Tout (request transmission time), Txmit (timing information), and Tin (response reception time, col11 lines 49-56 and col12 lines 19-29).

Regarding claim 2 and 11, Mincher discloses a clock processor which calculates the time difference (correlating to propagation time) the receiving node's local clock value and the transmitting node's local clock value (processor further adapted to calculate a propagation time (delta) for a signal to propagate between said node and said other node, col11 lines 20-23) and further discloses the difference is based on Tout (request transmission time), Txmit (timing information), and Tin (response reception time, col11 lines 49-56 and col12 lines 19-29).

Regarding claim 3 and 12, Mincher discloses said request transmission time and said response reception time are indicated by said local clock of said node (local clock value for transmitting of request message and local clock value for receiving response message, at one node), and said request reception time and said response transmission time are indicated by said local clock of said other node (local clock value for receiving request message and local clock value for transmitting response message, at other node, col12 lines 20-27).

Regarding claim 4 and 13, Mincher discloses said method performs said transmitting, receiving and calculating steps to calculate a respective said difference between the timing of said lock clock of said node and a respective said local clock of each of a plurality of said other nodes (figure 1 and col6 lines 62-65 and col8 lines 60-63).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 6, 7, 8, 15, 16, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mincher et al. (US 5408506) in view of Haartsen (US 6754250), hereinafter referred to as Mincher and Haartsen.

Regarding claim 6 and 15, Mincher fails to specifically disclose that the network includes an ad-hoc multihopping communication network and said node and said other nodes are adapted for use with said ad-hoc multihopping communications network. Mincher however discloses of using spread spectrum technique known as frequency hopping spread spectrum (FHSS).

Haartsen further discloses that ad-hoc networks are based on peer-to-peer connectivity (col4 lines 15-18) and in order to avoid interference, FHSS is used (col2 lines 45-65),

which is well known in the art. It should thus be obvious to incorporate the distributed time synchronization system and method within a FHSS LAN as disclosed by Mincher into an ad-hoc multihopping network as disclosed by Haartsen in order to efficiently reduce the interference. It should be noted that it is well known in the art, of the implementation of an ad-hoc multihopping network, which uses FHSS.

Regarding claims 7, 8, 16, and 17 the combination of Mincher and Haartsen, more specifically Haartsen, discloses the wireless nodes be mobile nodes (col12 lines 12-15).

Allowable Subject Matter

6. Claims 9 and 18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. Claim 9 and 18 is allowable due to the further limitations of calculating a subsequent transmission time at which said local clock of said other node was reading when said other node transmitted said subsequent signal based on said calculated difference and comparing said subsequent transmission time to a time representing a beginning of a time slice to determine a propagation time for said subsequent signal to propagate between said other node and said node.

Response to Arguments

8. Applicant's arguments see Remarks pages 8-13, filed December 30, 2005, with respect to the rejection(s) of claim(s) 1-8 and 10-17 under Dive (US 6836851) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Mincher et al. (US 5408506).

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a) Sato (US 6128318), Method For Synchronizing A Cycle Master Node To A Cycle Slave Node Using Synchronization Information From an External Network Or Subnetwork Which Is Supplied To The Cycle Slave Node.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nguyen Ngo whose telephone number is (571) 272-8398. The examiner can normally be reached on Monday-Friday 7am - 3:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (571) 272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

NN

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SUPERVISORY PATENT EXAMINER